

HEALTH INSURANCE COST PREDICTION

Project Name: Health Insurance Cost Prediction with Machine Learning

Project Type: Computer Engineering Second Term Engineering Project 2 Lesson's Project

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Project Team: Muhammet Mehmet KIR (Second Grade Computer Engineering Student)

Project Purpose:

With the model trained using machine learning and data set, writing and saving the health insurance cost prediction on the web page by taking the value from the user.

Project Outputs:

In the web application prepared with Python framework Django, the regression prediction was made with the model I integrated by taking the value from the user. The predictions are then shown on the results page.

Features of the developed program:

- On the prediction page, the user enters values.
- Values are calculated and the result is predicted.
- The results are printed as a table on another web page.
- Users who want to calculate BMI can calculate by entering their weight and height values, and some recommendations are printed on the web page according to the result.

Tools Used:

- Python 3.9.7
- Anaconda Navigator
- Visual Studio Code
- Jupyter Notebook
- NumPy
- Pandas
- Scikit-learn
- Django
- HTML
- CSS
- JavaScript
- Bootstrap
- Sqlite3

Areas for Development:

The application I made can be changed and improved. The application can be designed according to different data sets and machine learning models.

Commercialization Potential:

My application can be designed and sold according to health insurance or other insurance companies. By entering certain data, customers learn the annual insurance cost and can agree with a suitable health insurance company.

Health Insurance Cost Prediction

Age

Sex

Body Mass Index

Children

Smoker

Prediction Results

| # | Age | Sex | Body Mass Index | Children | Smoker | Prediction Price(\$) |
|---|------|-----|-----------------|----------|--------|----------------------|
| 1 | 50.0 | 1.0 | 30.9 | 3.0 | 0.0 | 11555.879042816925 |
| 2 | 61.0 | 0.0 | 29.1 | 0.0 | 1.0 | 28194.25869108735 |
| 3 | 19.0 | 0.0 | 27.9 | 0.0 | 1.0 | 17973.408464126638 |
| 4 | 22.0 | 1.0 | 35.6 | 0.0 | 1.0 | 37069.18890332742 |
| 5 | 46.0 | 1.0 | 42.3 | 3.0 | 1.0 | 44421.67160150537 |

BMI CALCULATOR

Weight:

Height:

Calculate

Your BMI is:

19.2 kg/m²

You are Normal 😊

Some suggestions for you are:

- Eat healthy food
- Do not eat junk food
- Your meal should contain all the essential nutrients
- Minimize the intake of alcohol
- Do regular exercise

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